

A NEW SPECIES OF THE GENUS *PLANAESCHNA* MCLACHLAN FROM FUJIAN, CHINA (ODONATA, AESHNIDAE)

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Abstract *Planaeschna liui* sp. nov. is described and illustrated from a single male. The holotype is deposited at Institute of Biological Control Research, Fujian Agriculture and Forestry University.

Key words Odonata, Aeshnidae, *Planaeschna*, new species, China.

The genus *Planaeschna* was erected by McLachlan in 1896, and its type species is *P. milnei* (Selys, 1883). There are twenty-one species of this genus known to date (Karube, 2002b; Wilson and Xu, 2008), mainly confined to Indo-China and China with outliers occurring in Thailand, Burma, India (Assam) and Japan. Not including the new species, eleven *Planaeschna* species have been reported from China: Asahina (1951, 1964) described *P. taiwana* and then *P. risi*. *risi* from Taiwan; Zhou and Wei (1980) described *P. suchangensis* from Zhejiang, also distributed in Fujian, Guangdong and Guangxi; Yeh (1996) recognized *P. ishigakiana flavostria* in Taiwan; then Wilson and Reels (2001) described *P. celia* from Hainan; Zhu and Zhang (2001) described *P. shanxiensis* from Shanxi; later, Karube (2002a) described *P. gressitti* from Guangdong; and Zhou and Bao (2002) described *P. madanensis* from Guizhou; recently, Wilson and Xu (2008) described three new species of *Planaeschna*, e. g. *P. hui* from Guangdong and Guangxi, *P. nanlingensis* from Guangdong, and *P. skiaperipola* from Guangdong and Hong Kong. In the present paper, a new Chinese species, *P. liui* sp. nov., is described and illustrated.

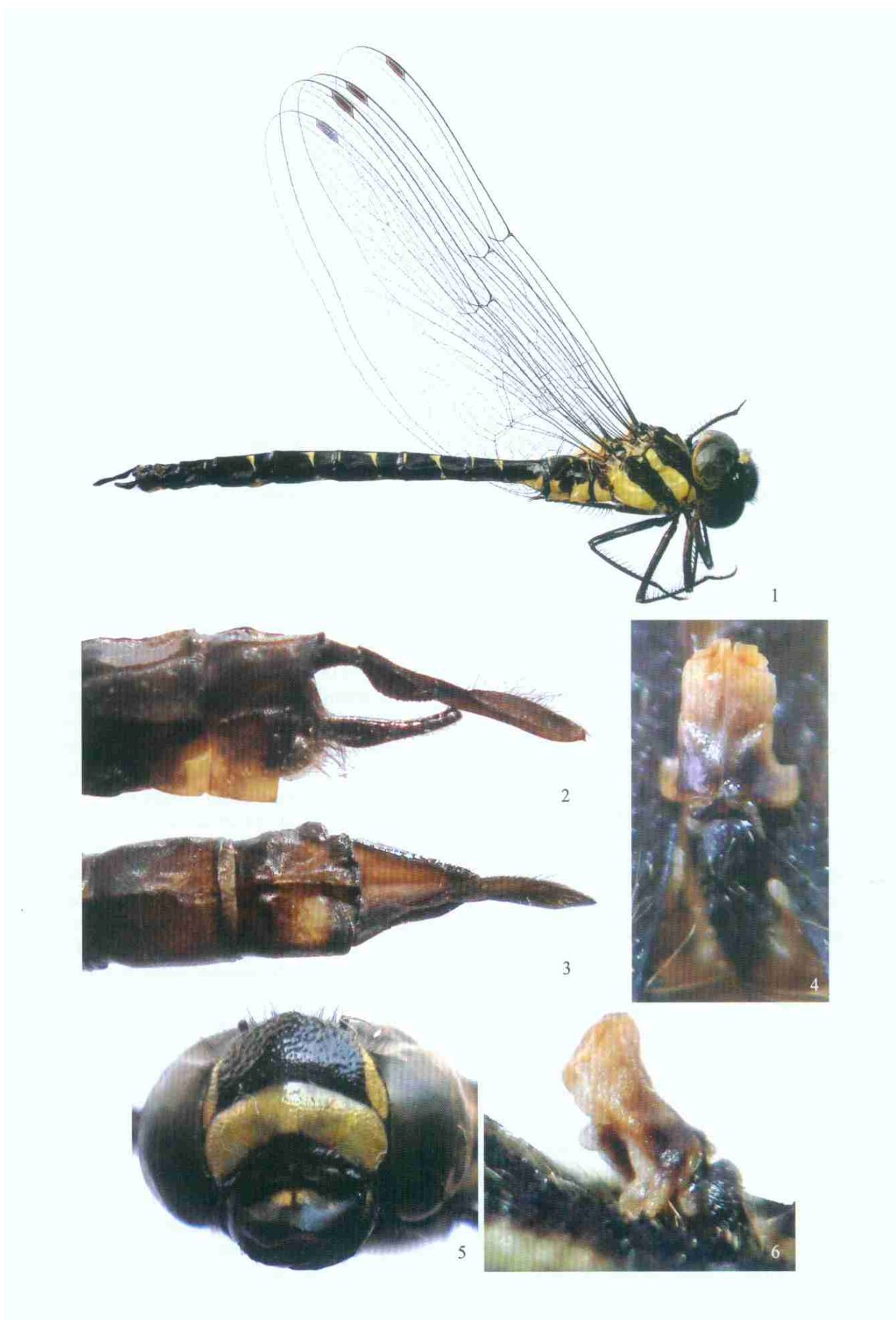
Planaeschna liui sp. nov. (Figs. 1-6)

Male. Labium brownish-yellow. Labrum brownish-black, with a pair of greenish-yellow spots on basal median area. Mandible brownish-black, with a small greenish-yellow spot on base. Anteclypeus dark brown; postclypeus yellowish-green, with broad central distal margin brownish-black. Face of frons black, its sides yellowish-green; top frons dark yellowish-brown, with long dark hairs. Antennae and occiput black. Vertex blackish-brown. The frontal view of head as shown in Fig. 2.

Prothorax brownish-black on dorsum and pale on sides. Synthorax brownish-black, with yellowish-green and yellow markings. Dorsal stripes yellowish-green, broadest at upper end, narrowing sharply and obliquely outwards at basal end. Antealar sinus greenish-yellow.

Mesepimeron marked with broad yellowish-green stripes, which is narrower at upper half and broader at lower half. Mesokatepisternum yellowish-green largely. A small triangular yellowish-green spot on upper end of metepisternum, at base of forewing. Metakatepisternum, metepimeron and metaposternum all marked with yellowish-green largely. The colour pattern of synthorax as shown in Fig. 1. Legs blackish-brown. Forelegs with coxae, trochanters and basal 2/3 of inner faces of femora pale yellow. Middle legs with inner faces of coxae and trochanters brownish-yellow, outer faces of coxae and trochanters yellowish-brown, and basal half of inner faces of femora yellow. Hindlegs with coxae and trochanters dark brown or blackish-brown, basal 1/3 of inner faces of femora yellowish-brown. Wings hyaline, extreme bases of both forewings and hindwings amber yellow. Pterostigma greyish-brown, braced in all wings, and covering 2-3 cells. Median space free. Triangle composed of 4 cells. Anal loop 9 celled. Nodal index 16-21: 23-15 in forewings, 18-14: 13-18 in the hind.

Abdomen brownish-black predominantly. Segment 1 with a large lateral yellowish-green spot and two small dorsal yellowish-green spots. Side of segment 2 with yellowish-green auricle and a distal yellowish-green spot which is connected with auricle; dorsum of segment 2 with a large triangular greenish-yellow spot at base, a pair of greenish-yellow spots at transverse carina, a transverse greenish-yellow stripe at posterior margin, and a distal 1/3 greenish-yellow stripe on central carina. Segment 3 with a triangular yellowish-green spot on each basal lower side, a basal 2/5 yellowish-green stripe on central carina, a pair of triangular yellowish-green spots on jugal suture, a transverse yellowish-green stripe at posterior margin, narrowly separated by central carina, and a very small ventro-lateral yellowish-green spot at apical border. Segment 4 with a pair of triangular yellowish-green spots on jugal suture, a transverse yellowish-green stripe at posterior margin on dorsum, narrowly separated by central carina, and a pair of basal 2/5 greenish-yellow spots on sternite. Segment 5 repeats the colour pattern of



Figs. 1-6. *Planaeschna liuis* sp. nov. . 1. Body. 2. Distal abdominal segments, lateral. 3. Distal abdominal segments, dorsal. 4. Distal segment of penile organ, ventral. 5. Head, frontal. 6. Distal segment of penile organ, lateral.

segment 4. Segment 6 with a pair of triangular yellowish-green spots on jugal suture, and a pair of basal 2/5 greenish-yellow spots on sternite. Segment 7 repeats the colour pattern of segment 6. Segment 8 with a pair of transverse yellowish-green stripe on jugal suture, a pair of basal 1/4 greenish-yellow spots on sternite, and a round field of minute spines on apical half of dorsum. Segment 9 marked with yellowish-brown on apical half of dorsum, and an apical brownish-yellow spot on each lower side. Segment 10 marked with yellowish-brown on dorsum, bordered with blackish-brown, and a large brownish-yellow marking on each lower side. The lateral colour pattern of abdomen illustrated in Fig. 1. Abdominal segments 9-10 and caudal appendages illustrated in Figs. 3-4. Right superior appendage missing. Superior appendages blackish-brown, twisted upwards and inwards at mid-point, with a minute prominence at tip. Inferior appendages exceeding half the length of superior appendages, and its basal width equal to the height of segment 10, its outer face blackish-brown, inner face yellowish-brown. Distal segment of penile organ yellowish-brown predominantly, squarish-shaped, truncated somewhat in front, with a pair of extensive ear-lobed flanges slightly bent forwards at its base. The lateral view and ventral view of distal segment of penile organ as shown in Figs. 5-6.

Measurements mm. Abd. + app. 49; hw. 43.

Holotype, China, Fujian Province, Wuyi Mountain (27°33'-54' N, 117°27'-51' E), 16 July 2008, leg. QIU Zhi-Peng, deposited at Institute of Biological Control Research, Fujian Agriculture and Forestry University, Fuzhou, Fujian, China. Female unknown.

Etymology. Named in honor of our teacher LIU Chang-Ming.

Differential diagnosis. It is not easy to correlate this new species with other *Planaeschna* species due to the distinct shapes of caudal appendages and penile organ, although it is similar to *P. suchangensis* in body colour pattern. The new species can be separated from all other *Planaeschna* by a combination of the following characters:

1) labrum with paired greenish-yellow spots on basal median area and mandible with a small greenish-yellow spot on base; 2) segments 9-10 marked with large yellowish-brown markings dorsally, and large brownish-yellow markings laterally; 3) superior appendages twisted upwards and inwards at mid-point, inferior appendages exceeding half the length of superior appendages, and its basal width equal to the height of segment 10; 4) distal segment of penile organ squarish-shaped, truncated somewhat in front, with paired extensive ear-lobed flanges slightly bent forwards at its base.

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中国黑额蜓属一新种记述 (蜻蜓目, 蜓科)

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摘 要 记述黑额蜓属 1 新种, 刘氏黑额蜓 *Planaeschna liui* sp. nov.。

新种区别于黑额蜓属其它种的主要特征如下: 1) 上唇中基部具 1 对黄绿色斑, 上颚基部具 1 黄绿色小斑; 2) 腹部第 9 节背面端半部黄褐色, 侧面端下部土黄色, 腹部第 10 节背面具 1 黄褐色大斑, 侧面下部土黄色; 3) 上肛附器在中部

扭曲, 下肛附器长度超过上肛附器一半, 其基端宽度与腹部第 10 节高度相等; 4) 阳茎末节近方形, 前端稍平截, 基部两侧具 1 对稍向前弯曲的大耳状突。

正模, 福建武夷山, 2008-07-16, 邱志鹏采。模式标本存放在福建农林大学作物病虫生物防治研究所。

关键词 蜻蜓目, 蜓科, 黑额蜓属, 新种, 中国.

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